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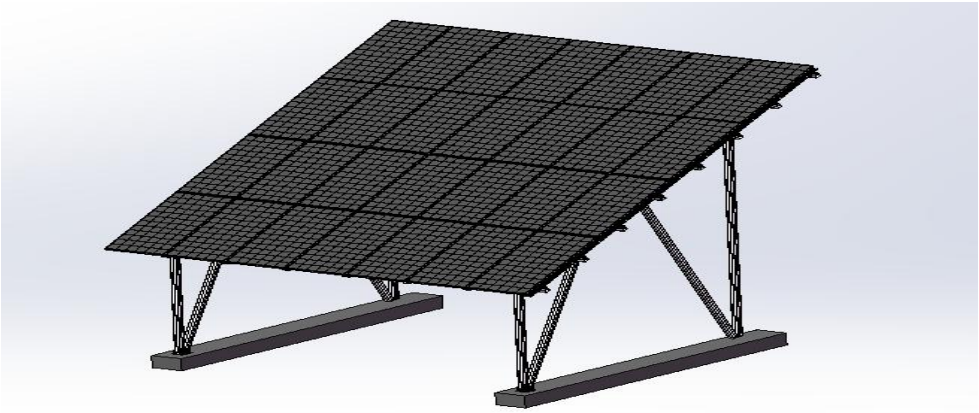
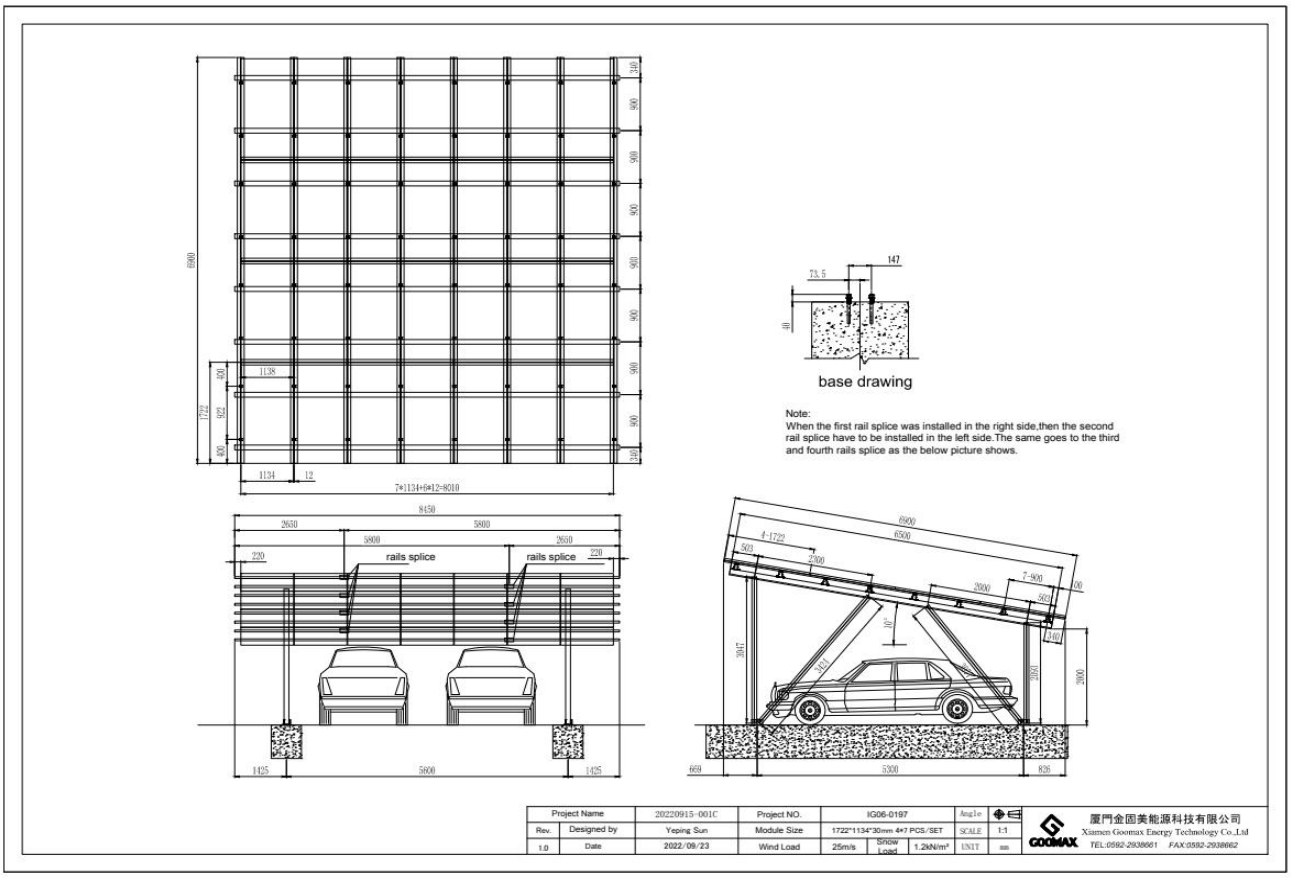
BIPV Waterproof Carport Installation Manual

———— Portrait



1.Planning

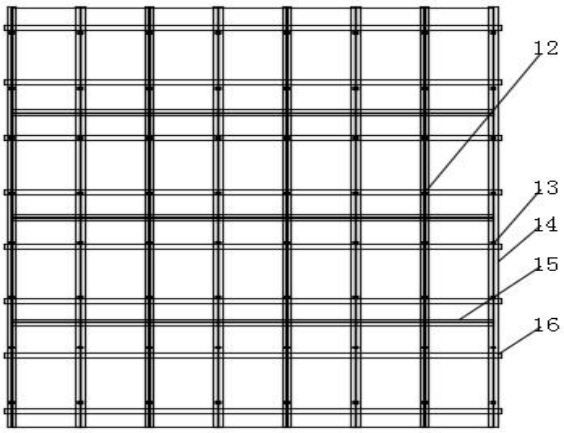
1.1 The Drawing

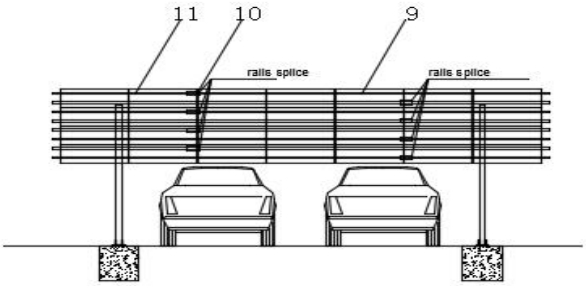


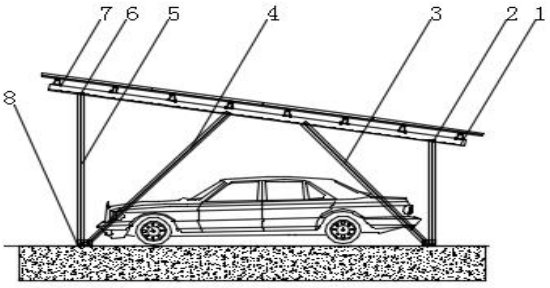
1.2 Tools

Allen Wrench M8	Hex Wrench M8~M12	Torque Wrench M8~M12
		
Tape	Level Ruler (1~2m)	Socket wrench (M8~M12)
		
Rope	Wooden Hammer	
		
Hand-held electric drill	Electric drill sleeve (M8~M12)	
		

1.3 Components List (The required mounting parts will be varied as per design)

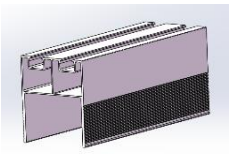
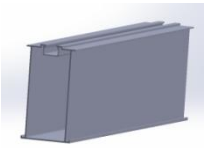
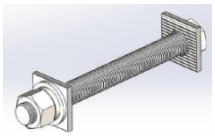
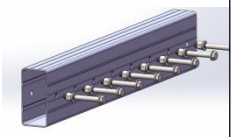
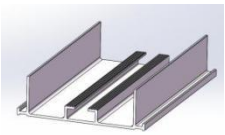






NO.	Item NO.	Item
1	GM-R07	Beam
2	GM-CP-S2 2093mm	Post 01
3	GM-CP-S2 3077mm	Post 02
4	GM-CP-S2 3424mm	Post 03
5	GM-CP-S2 3047mm	Post 04
6	GM-CP-M14X140	M14X140 Bolt
7	GM-BR-01	Rail Clamp
8	GM-CP-B02	Base02
9	GM-R93 5800mm	Rail
10	GM-RS-93-800	Rail Splice
11	GM-R93 2650mm	Rail
12	GM-MC-30-FX	Mid Clamp
13	GM-EC-30-FX	End Clamp
14	GM-R71	Waterproof Rail - Vertical
15	GM-FS-SC	Waterproof Gutter - Landscape
16	GM-BR-01	Rail Clamp

1.4 Component

				
Beam	Rail 93	Post 01/02/03/04	Base 02	M14X140 Bolt
				
Rail Clamp	Rail Splice	Mid Clamp	Mid Clamp	Waterproof Rail - Vertical
				
Waterproof Gutter - Landscape				

1.5 Parts Introduction

1）Beam

To work with posts in order to install rails；

2）Rail #93

For panel installation, apply Rail Clamp to fix Rails on Beam;

3）Post 01/02/03/04

For supporting Beam, the tilt angle and the height of the carport will be affected by the length and span of the posts.

4）Mid Clamp /End Clamp

To fix panels;

5）Splice for Rail

As a connector between two pieces of rails in order to form a longer section;

6）Base

To fix Post on concrete block

7）Waterproof Rail

Apply waterproof rail underneath the spacing between two rows of panels for waterproofing。

8）Bolt

To connect and fix Beam and Post

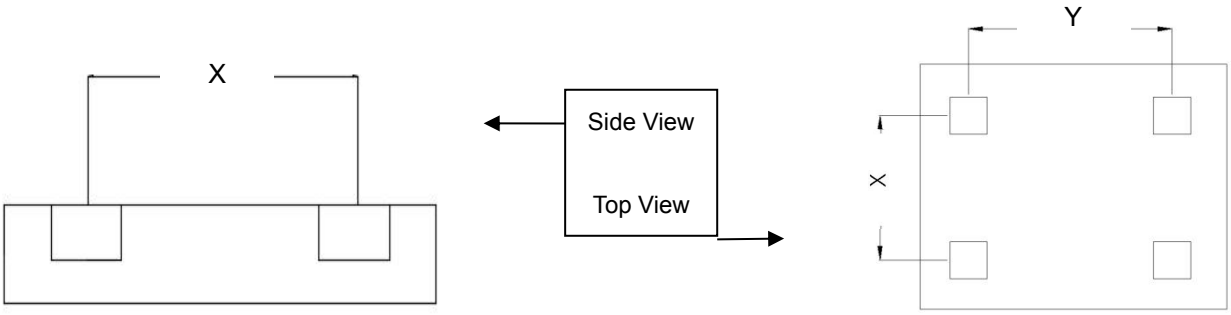
9）Rail Clamp

To fix rails to Beam on each side of Rail

2 Installation Instruction

2.1 Positioning

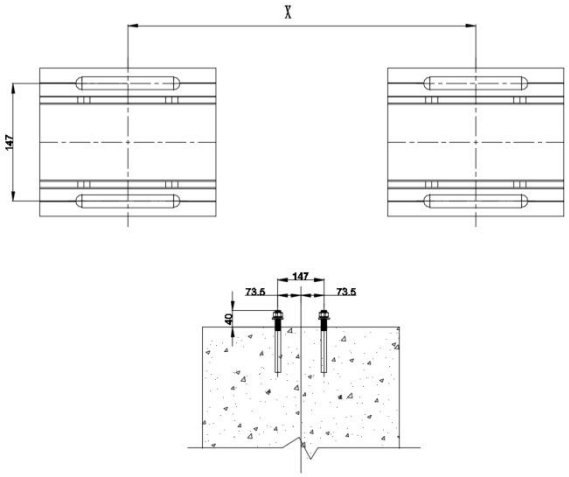
According to the installation plan, determine the position of foundation as per below:



The image on left is the side view of the positioning of concrete, X= the distance between front leg and back leg.The height of concrete foundation is generally ≥300mm, it is adjustable as per project's requirement. The height of concrete foundations should be consistent.

The image on right is the top view of concrete, Y= Span

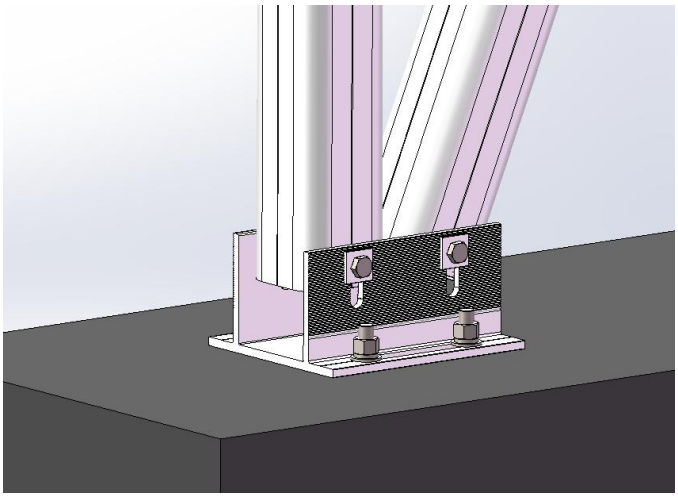
Be sure to strictly positioning during installation to ensure that the deviation is less than 20mm, otherwise the structure may not be able to be installed.



The above is sketch drawing of concrete block with pre-buried bolts. Dimension of pre-buried bolts is M14 with the length ≥150. Bolts shall be buried with at least 100mm depth, and with 30~40mm length outside.

2.2 Post Installation

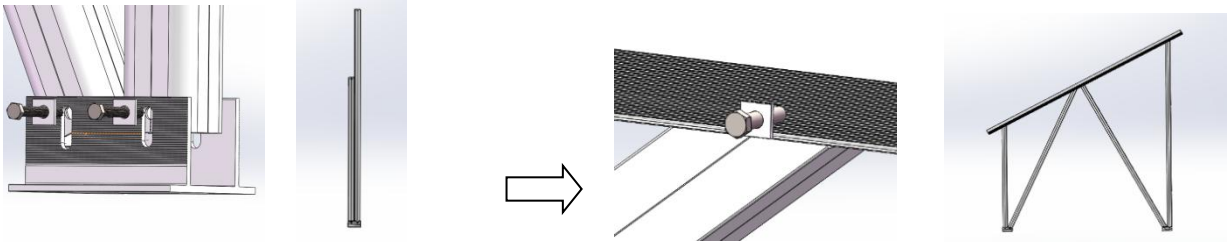
Place Post and Base to the corresponding position, fasten all bolts.



Install the assembled support into embedded bolts as shown in 2.1;

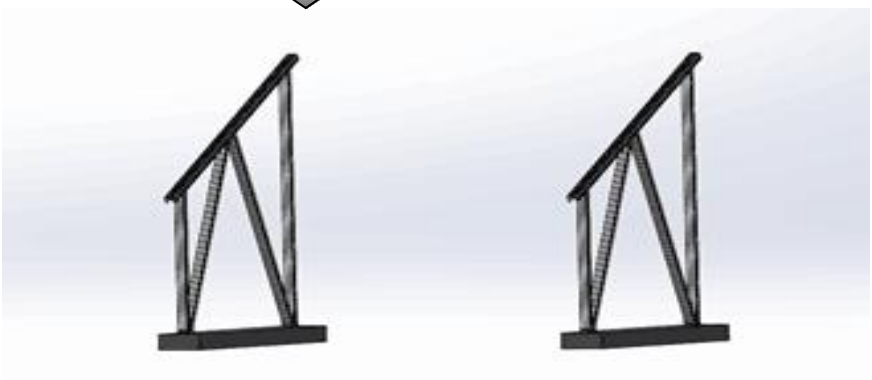
2.3 Installation of Pre- assembled Structure

As per engineer drawings, to install Post and Base, and fasten all embedded bolts, as per below:



Insert Post into Base, as per above

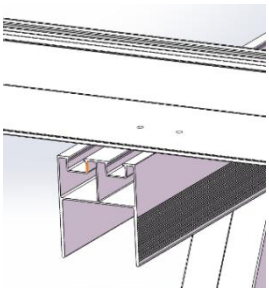
As per engineer drawings, to fix Post to Beam and fasten.



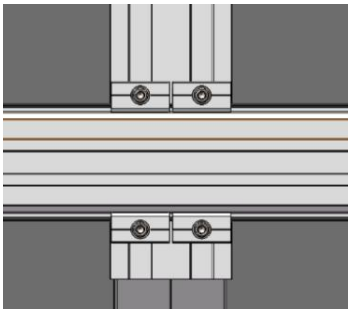
After the pre-assemble structure's installation is completed,check and confirm all are installed well, then start to install the rails

2.4 Rail Installation

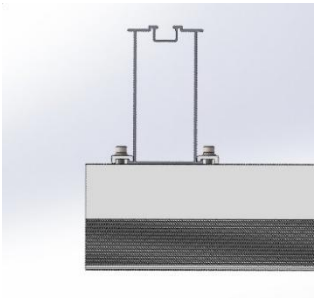
Place one rail on Beam as per corresponding position, use Rail Clamp to fix Rail to the Beam and fasten it by Allen Key, as per below:



Place the rail at the specified position on the Beam, to make sure rail is vertical to the Beam

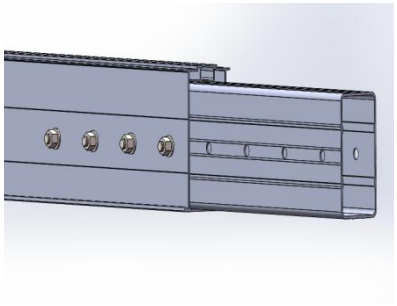


Use two rail clamps for rail on each side

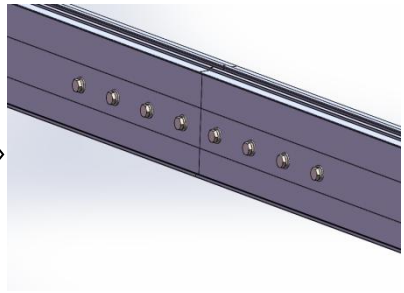


Fasten all bolts after adjustment

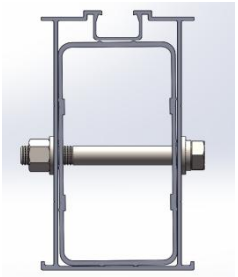
When the Rail Length is not long enough,use Rail Splice to make the rail longer,and at the same time to make sure the strength will not be affected.



Insert Rail Splice halfway into one end of the rail, and fasten it by using WLJ-M12x100 bolts.

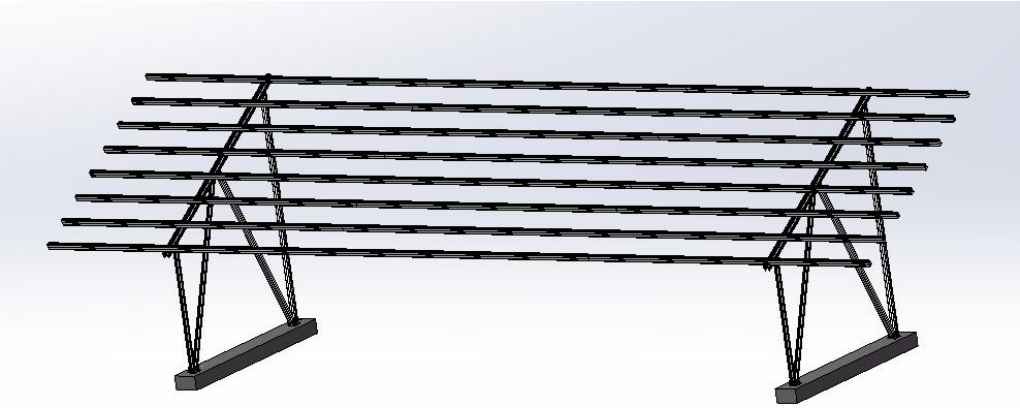


Place rail on the other side of splice and fasten by Hex bolts WLJ-M12x100

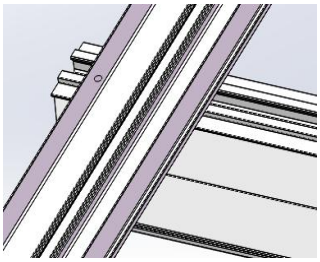


The rails are fixed by Hex bolts, as per above shown after installation.

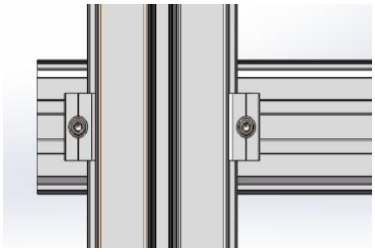
After the Rail installation is finished,it will look like the below picture shows:



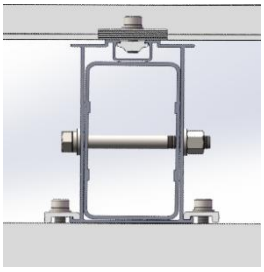
2.5 Waterproof Rail Installation



Place one Waterproof Rail on Rail 93 as shown above.

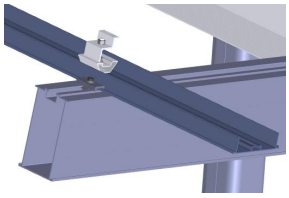


Use Rail Clamp to fix the Waterproof Rail on Rail 93 and fasten it.

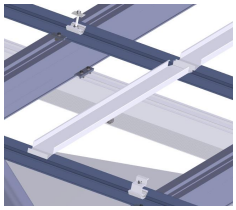


Fasten all bolts after adjustment

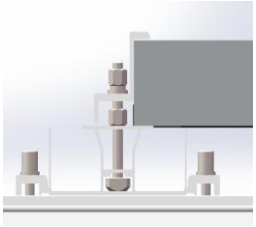
2.6 Installation of solar panel and waterproof Gutter



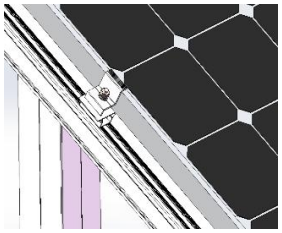
Place mid/end clamps and T bolt at the corresponding position and fasten it by bolts



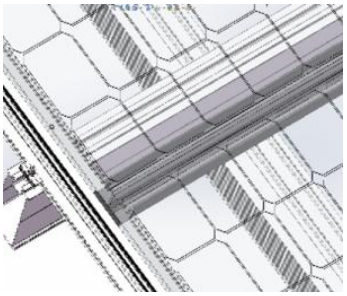
Place PV panel on the mid/end clamps,and place waterproof gutter on the waterproof rail



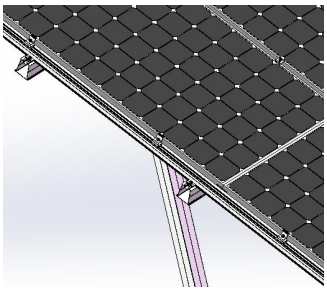
Fasten all bolts after adjustment of mid/end clams' position



After the installation is complete, it will like the above picture show

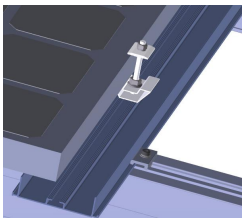


To buckle the second panel and the first panel together on the waterproof gutter

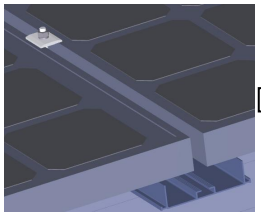


After adjusting the position of Mid/End clamp,fastening the bolts like the above picture show.

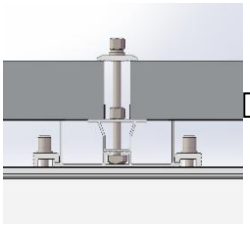
2.7 Installation of PV module and Mid Clamp



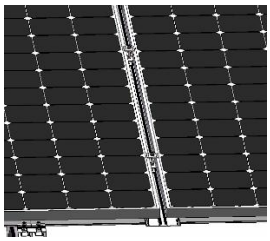
To place mid/end clamps and T bolts on the waterproof Rail and fasten it tightly after adjustment



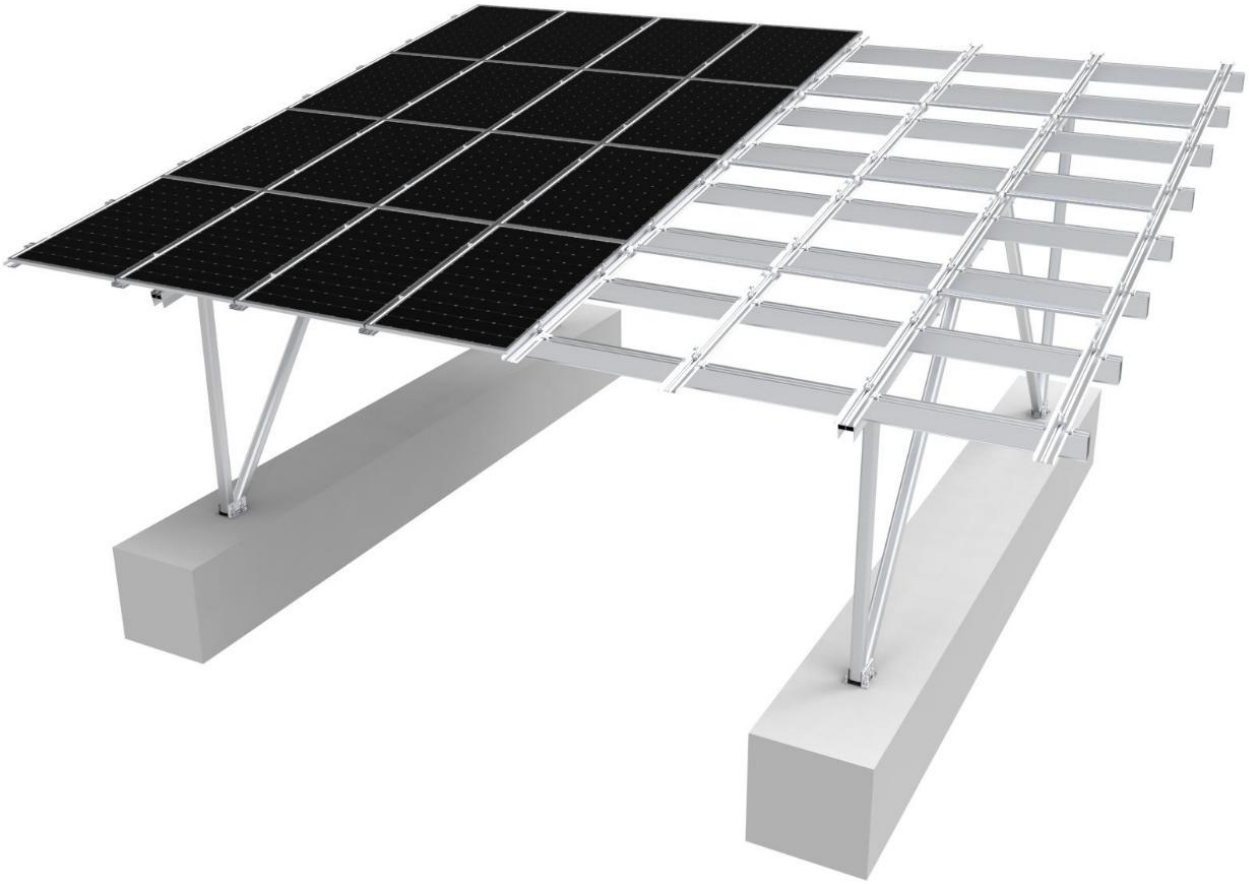
To fix waterproof rail under the PV modules



After adjustment, place mid/end clamp between two panels and put on flat washer, spring washer and nut and then fasten it.



After the installation is complete, it will like the above picture show.



After the installation is completed, check and ensure all bolts are locked well, and the installation is complete as the below picture shown: